Electronic TUBES

6CK4

TRIODE

FOR TV VERTICAL-DEFLECTION AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6CK4 is a low-mu triode designed for use as the vertical-deflection amplifier in television receivers.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential		
Heater Voltage, AC or DC	6.3±10%	Volts
Heater Current	1.25	Amperes
Direct Interelectrode Capacitances*		
Grid to Plate	6.5	μμf
Input	8.0	μμf
Output	1.8	μμf

MECHANICAL

Mounting Position—Any
Envelope—T-9, Glass
Base—B6-60, Short Intermediate-Shell Octal 6-Pin

MAXIMUM RATINGS

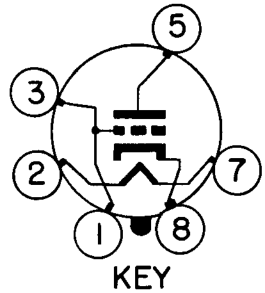
DESIGN-MAXIMUM VALUES UNLESS OTHERWISE INDICATED	Vertical-Deflection Amplifier†	
DC Plate Voltage	550	Volts
Peak Positive Pulse Plate Voltage	2000‡	Volts
Peak Negative Grid Voltage	250	Volts
Plate Dissipation	12§	Watts
DC Cathode Current	100	Milliamperes
Peak Cathode Current	350	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts
Grid Circuit Resistance		
With Cathode Bias	2.2	Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

BASING DIAGRAM

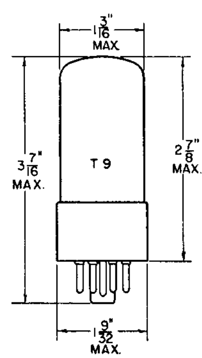


EIA 8JB

TERMINAL CONNECTIONS

Pin 1—Grid
Pin 2—Heater
Pin 3—Grid
Pin 5—Plate
Pin 7—Heater
Pin 8—Cathode

PHYSICAL DIMENSIONS



EIA 9-43

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage	100	250	250	Volts
Grid Voltage	0¶	−38	−28	Volts
Amplification Factor			6.6	
Plate Resistance, approximate			1200	Ohms
Transconductance			5500	Micromhos
Plate Current	125	10	40	Milliamperes
Grid Voltage, approximate Ib = 0.5 Milliamperes			−50	Volts

* Without external shield.

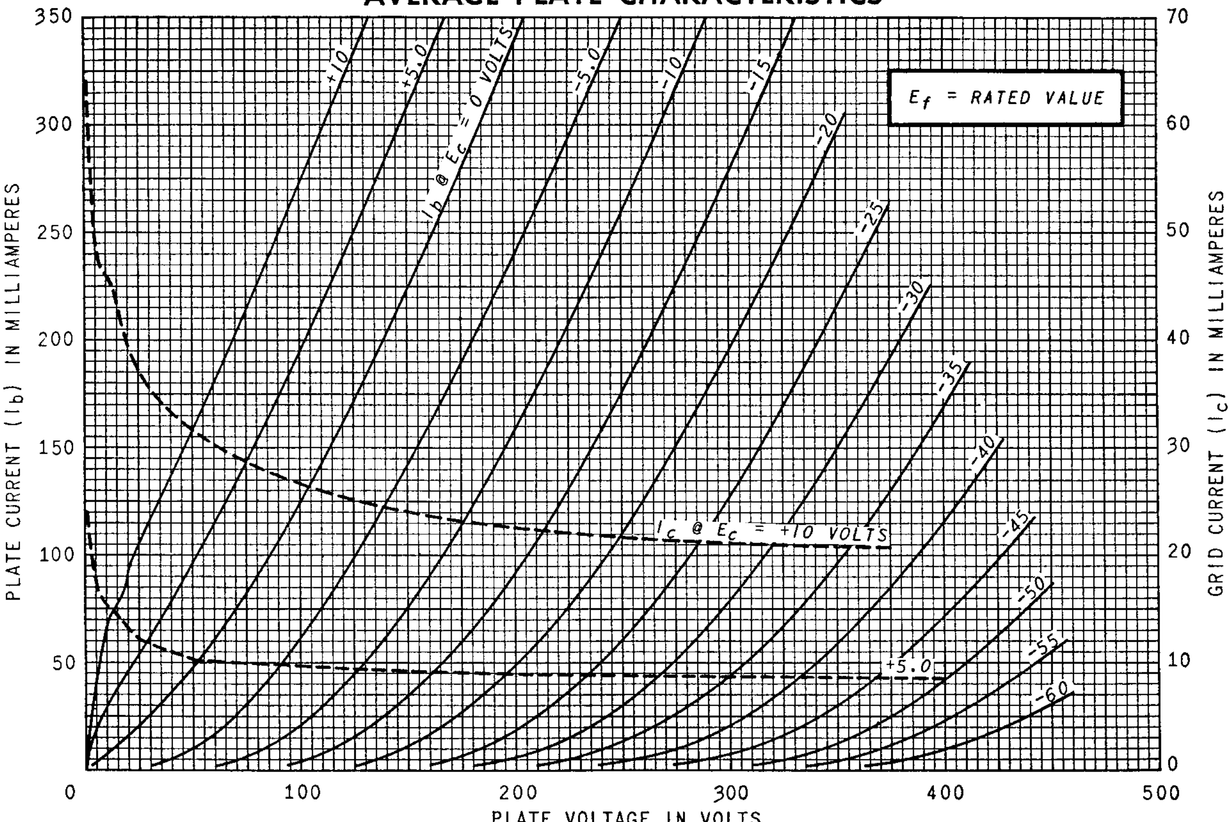
† For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

‡ Value given is to be considered as an Absolute Maximum rating. In this case, the combined effect of supply voltage variation, manufacturing variation including components in the equipment, and adjustment of equipment controls should not cause the rated value to be exceeded.

§ In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.

¶ Applied for short interval (two seconds maximum) so as not to damage tube.

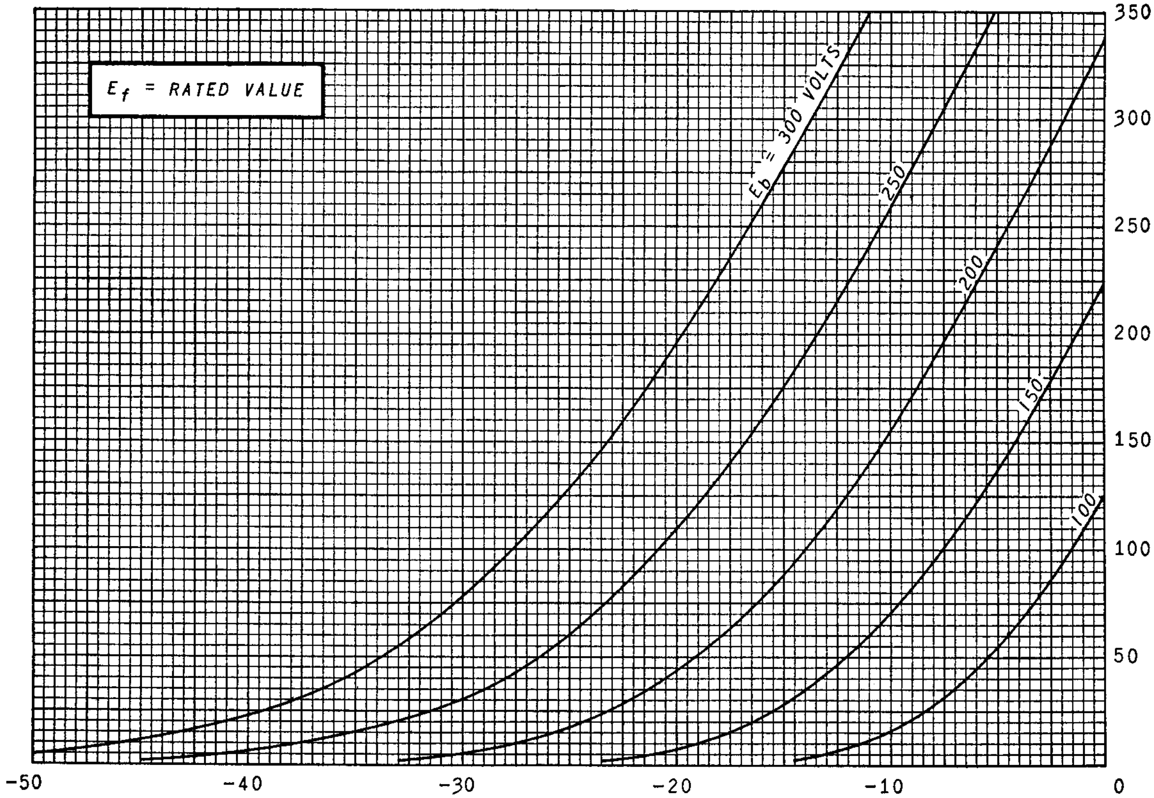
AVERAGE PLATE CHARACTERISTICS



K-55611-TD38-1

MAY 27, 1958

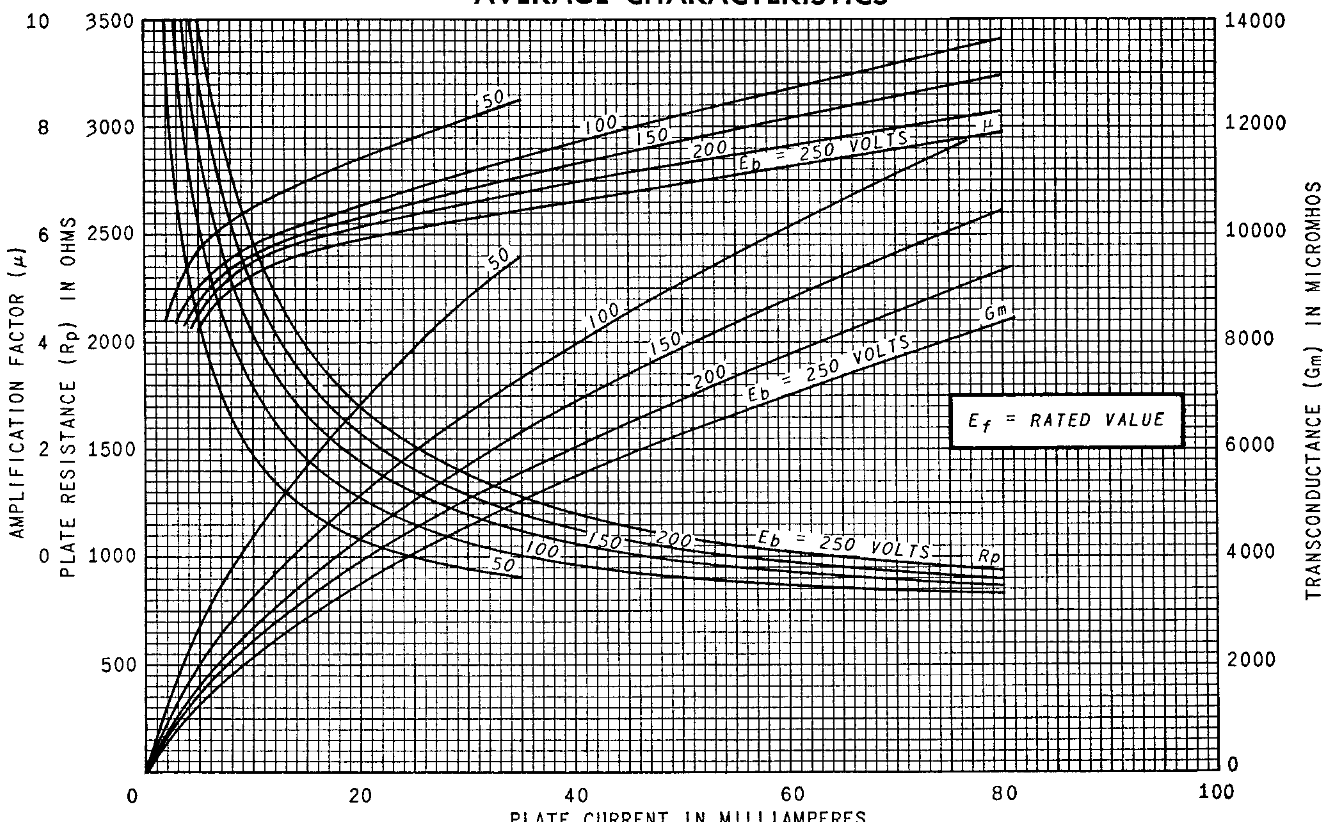
AVERAGE TRANSFER CHARACTERISTICS



K-55611-TD38-2

MAY 27, 1958

AVERAGE CHARACTERISTICS



K-55611-TD38-3

MAY 27, 1958